

TRIAD



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Patient Safety

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MHA Keystone Center:

Collaborating Physician and Hospital Efforts to Improve Patient Safety and Care

by Dawn Wondero



It's a familiar story. An admitted patient acquires an infection from the hospital and is worse off than before seeking treatment. In some cases the patient doesn't even come home.

The Michigan Health & Hospital Association Keystone Center for Patient Safety and Quality is writing a better ending for patients, hospitals, and caregivers. Established in 2003, the center partners with experts and employs evidence-based interventions to save lives and change the culture surrounding prevention and treatment of hospital-associated infections.

The results have been outstanding. According to the MHA Keystone Center, in the time since the center began its intensive care unit project in 2004, 1,683 lives and \$188 million dollars have been saved.

As president and CEO of Botsford Hospital, **Paul LaCasse, D.O., M.P.H.**, has seen the success of the project up close. Botsford was one of the first hospitals to join the Keystone effort in 2004. "The benefits of the Keystone project are numerous and dramatic," Dr. LaCasse said. "First and foremost, the project has reduced the incidence of ventilator-associated pneumonia and catheter-related blood stream infections. Intensive care units are safer across all participating hospitals in Michigan resulting in lower mortality and morbidity. The cost of care associated with the incidence of these untoward events has also been reduced."

The MHA Keystone Center Executive Director Sam Watson believes that if physicians, other care givers and hospitals follow the evidence they will see benefits, for themselves and their patients.

"We don't seek to standardize care. What we seek is to coordinate care, using evidence. We're not saying, 'Doctor, thou shall do it this way,' he said. "We ask them to look at the practice pattern and ask, 'How can I make this part of what I'm doing?'"

"The other part of the work we do is to build a culture in organizations where harm is untenable," Watson said.

Cardiothoracic surgeon and critical care specialist **Gary L. Roth, D.O., FACOS, FCCM**, with Ingham Regional Medical Center, Lansing, believes the MHA



Keystone Center allows physicians to validate what they already knew was right. “It organized what we wanted to do and gave us the tools and the ability to connect with colleagues, and it gave us credibility,” Dr. Roth said.

Dr. Roth has been involved with the MHA Keystone Center since its inception. He serves on the steering committees for the center and continues to advocate for the center’s projects by speaking at workshops throughout Michigan and the U.S. He has also been invited to speak on the project in India next January. “Everything we do we base on evidence-based medicine. It’s not ‘my opinion.’ The evidence is based on data and that reinforces the right thing,” Dr. Roth said.

The evidence is as dramatic at Ingham Regional as it is elsewhere, Dr. Roth said. After making safety changes in the way it addresses ventilator-associated pneumonia, the hospital saw a 10-fold reduction, going from 40 to 4 cases of ventilator-associated pneumonia in one year. It also saw a seven-fold reduction in catheter-related blood stream infections from 15 to 2 in one year.

Intensive care units are safer across all participating hospitals in Michigan resulting in lower mortality and morbidity.

“The things we had to push to do are just second nature to people now. It’s a culture of safety, not a project or just an initiative. It’s automatic. Because of this, every day more physicians are doing the right thing,” Dr. Roth said.

The reaction from physicians is variable in engagement, Watson said. Physicians play a significant role – as coordinators of care and individuals responsible for care,” he explained. “We’ve actually found that physicians are interested and willing to participate – when we give them evidence in hand and rigorous methods to measure.”

The methods used and touted by the MHA Keystone Center are rigorous enough to land an article in the Dec. 28, 2006 issue of *The New England Journal of Medicine*. (NEJM). The study in the NEJM evaluates the effect of using five, evidence-based, simple procedures recommended by the CDC and interventions from the Keystone project, to reduce the rate of catheter-related bloodstream infection in ICUs.

According to the study, the actual intervention was simple and inexpensive. The CDC procedures included hand washing, using full-barrier precautions during the

insertion of central venous catheters, cleaning the skin with chlorhexidine, avoiding the femoral site if possible, and removing unnecessary catheters. Based on the Keystone project plans, the ICUs also implement daily goals sheets, an intervention to reduce the incidence of ventilator-associated pneumonia, and promote safety programs.

In collaboration with Johns Hopkins University, the project resulted in 103 intensive-care units in Michigan and five in other states dramatically reducing any blood infections associated with central intravenous catheters. Based on the evidence, up to 66 percent of these hospitals completely eliminated the infections over an 18-month period through teamwork and simple intervention.

The ICUs that participated in the study accounted for 85 percent of ICU beds in Michigan. “Certainly the physicians in on the *New England Journal of Medicine* article understand the benefit,” Watson said. “To physicians, it’s about giving the best care they can.”

Dr. Roth agrees. “When physicians question these initiatives or are resistant, my response is always to ask them ‘what’s wrong with doing the right thing?’ We own the processes. There’s no excuse for not doing them right.”

Dr. Roth also believes the MHA Keystone Center’s initiatives fully fit the way osteopathic physicians should be treating their patients. “I’m a D.O. looking at the whole patient – that’s the way we have been indoctrinated,” Dr. Roth said. “If you think about some of the things that A.T. Still taught – the rule of the artery, the unity of the human being, the body’s natural ability to heal itself – going back to the beginning of osteopathy, A.T. Still was telling us to ‘think Keystone.’ Back then it was observational, nonetheless it was quite accurate.”

Watson said the MHA Keystone Center is evaluating several new projects aimed at hospitals. There will be a collaborative for surgical care this summer, a high-risk obstetrical care project, and the center is evaluating a potential collaborative for the emergency department.

The center is also trying to better pinpoint dollar and time savings from its projects.

“We are working with Johns Hopkins to look at the outcomes and process data against hospital financial data,” Watson said. “We want to know, ‘Where are the savings occurring?’ Hospitals want to know ‘What is the cost in terms of resources?’ Physicians and caregivers want to know, ‘What is this going to save or cost me in terms of time?’”

For now, the savings to MHA Keystone Center study project participants has been in the number of infections and ultimately in patients lives and that is good news for physicians and for patients. ■